

A person is seen from the side, sitting at a desk in an office. They are looking down at a document or laptop. The office has a fluorescent light fixture on the ceiling and a bulletin board with papers on the wall. The image is slightly faded, giving it a soft, ethereal appearance.

# Reducing Mercury Waste: Fluorescent Lamps *in the Limelight*

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# Why worry about lamps?



## ⌘ *The conundrum:*

Lamps good for energy conservation  
but contain toxic mercury

⌘ Heavy promotion by utilities

⌘ EPA, Ecology add lamps to UW Rule

⌘ New state law: Hg label on lamps

# Sizing up the problem

⌘ In the U.S., 600 million fluorescent lamps burn out each year

⌘ In King County, 3.6 - 6.5 million lamps burn out each year

⌘ In 1998: <10% of lamps recycled



# Mercury in products



## Estimated amount of Hg in products disposed yearly in King County

⌘ Dental amalgams	260 -900 lbs.
⌘ <b>Fluorescent lamps</b>	<b>150 - 300 lbs.</b>
⌘ Wall thermostats	70 - 178 lbs.
⌘ Vehicle switches	35 - 100 lbs.
⌘ Thermometers	4 - 100 lbs.

Source: Mercury in King County Report, 2002, LHWMP

# Enlightening key audiences

⌘ *Goal:* reduce mercury entering waste stream in King County by recycling fluorescent lamps

⌘ *Key audiences:*

- ☑ Property managers
- ☑ Electric utilities
- ☑ Lighting contractors
- ☑ Businesses doing retrofits
- ☑ Residents



# Empowering key audiences



## ⌘ Partnership with electric utilities: *Retrofit & Recycle*

- ☑ Outreach to utility staff,  
lighting contractors,  
business & residential clients
- ☑ Visits & vouchers
- ☑ Lamp recycling in utility contracts

# Plugging into businesses



## ⌘ Light Brigade: Public-private partnership

- ☑ Outreach by field investigators, vouchers

- ☑ 25 QFC stores & 50,000 lamps

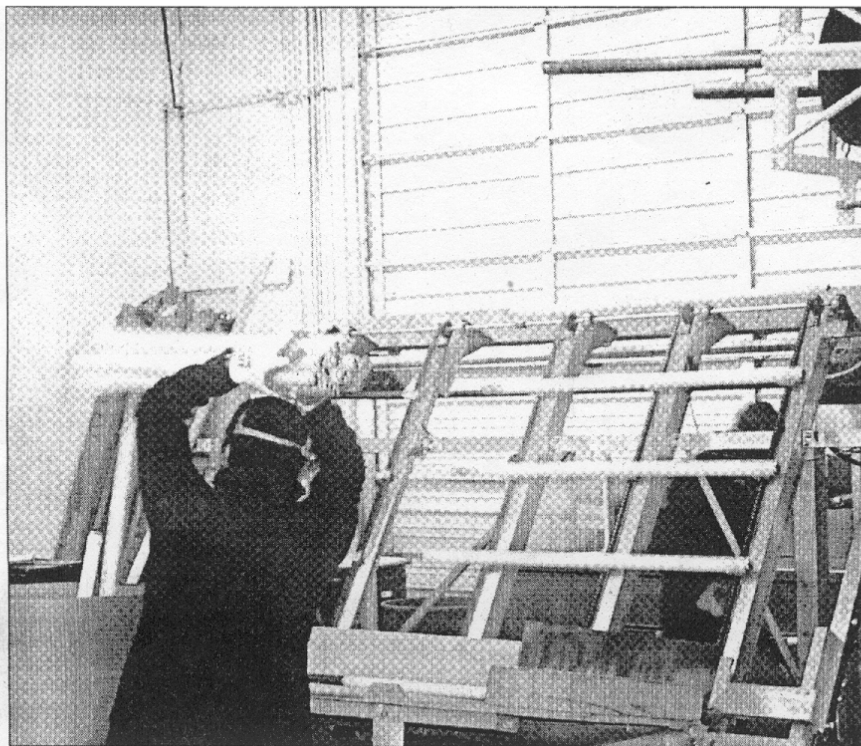
- ☑ One-year pilot:

  - 78 site visits

  - 194,000 ft. of lamps

- ☑ Media campaign

# Lighting the path to reduce mercury



Ecologics employees, shown here at their South Park facility, can recycle 10,000 fluorescent lamps a day.

By DAVID JACKSON  
Journal Staff Reporter

Fluorescent lamps, the energy-saving lighting of choice for scads of businesses, have a major downside.

They contain mercury, which can harm the human nervous system and is particularly hazardous to women of childbearing age.

University Village QFC to trumpet the grocery chain's involvement in the county program and to boost awareness of the issue.

As part of a lighting retrofit by contractor D.W. Close, QFC will recycle 50,000 fluorescent tubes from 24 grocery stores in King County.

It's not that difficult, McDonald says.

"We have a good business

## To learn more

Businesses interested in finding out more about fluorescent lamp recycling can call the business waste hotline at (206) 296-3976.

Ecologics employees take pre-

## Seattle Post-Intelligencer

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## P-I OPINION

# Fluorescents need recycling attention

King County residential users of fluorescent lights can get information by calling the Hazards Line, 206-296-4692, from 9 a.m. to 4:30 p.m. Monday through Friday.

The Business Waste Line for commercial users of the lights is 206-296-3976.

Don't look now, but there's more trouble on the way.

Public officials are still struggling to get businesses to recycle used fluorescent light bulbs, which contain toxic mercury. But the suddenly popular compact lights for homes will soon constitute a whole new wave of mercury-bearing trash ready to roll into the environment.

As an Aug. 27 Seattle Post-Intelligencer news story noted, fluorescent lights have become pervasive. So far, though, nobody has been paying nearly enough attention to where the bulbs end up.

Even with the mercury, fluorescent bulbs make a great deal of environmental sense. They use only about a fourth as much energy as standard bulbs and last much longer, often three years or more. But it would be foolish to ignore the ecological downside of improper disposal.

Mercury can cause brain, lung and kidney damage and birth deformities. It enters the environment from numerous sources, including watch batteries, thermom-



# Resources for businesses

- Website, trade show exhibits, articles, ads, workshops, brochure



# New spotlight on residents



- ⌘ Waste & energy utilities in King, Snohomish, Pierce Counties explore retail takeback of household lamps
- ⌘ Pilot will focus on CFLs and tubes
- ⌘ Collection in home improvement/ hardware stores or drugstores
- ⌘ Shared responsibility for costs
- ⌘ Contact Lauren Cole at [lauren.cole@metrokc.gov](mailto:lauren.cole@metrokc.gov)

# Retail takeback of lamps

## ⌚ **Store collects lamps from households.**

Exempt from the Dangerous Waste rules, including the Universal Waste rules. Store is a "product takeback center."

## ⌚ **Store collects lamps from businesses.**

-Store is a Universal Waste Handler. If it accumulates <2,200 lbs. of lamps, it is a small quantity handler. SQ handler rules are at WAC 173-303-573(6)-(8), (9), (10)(c) and (11)-(16). These are basics for preventing spills or breakage, cleaning up spills, shipping lamps within 1 year, labeling containers, training employees, handling shipments and ensuring proper destination of lamps.

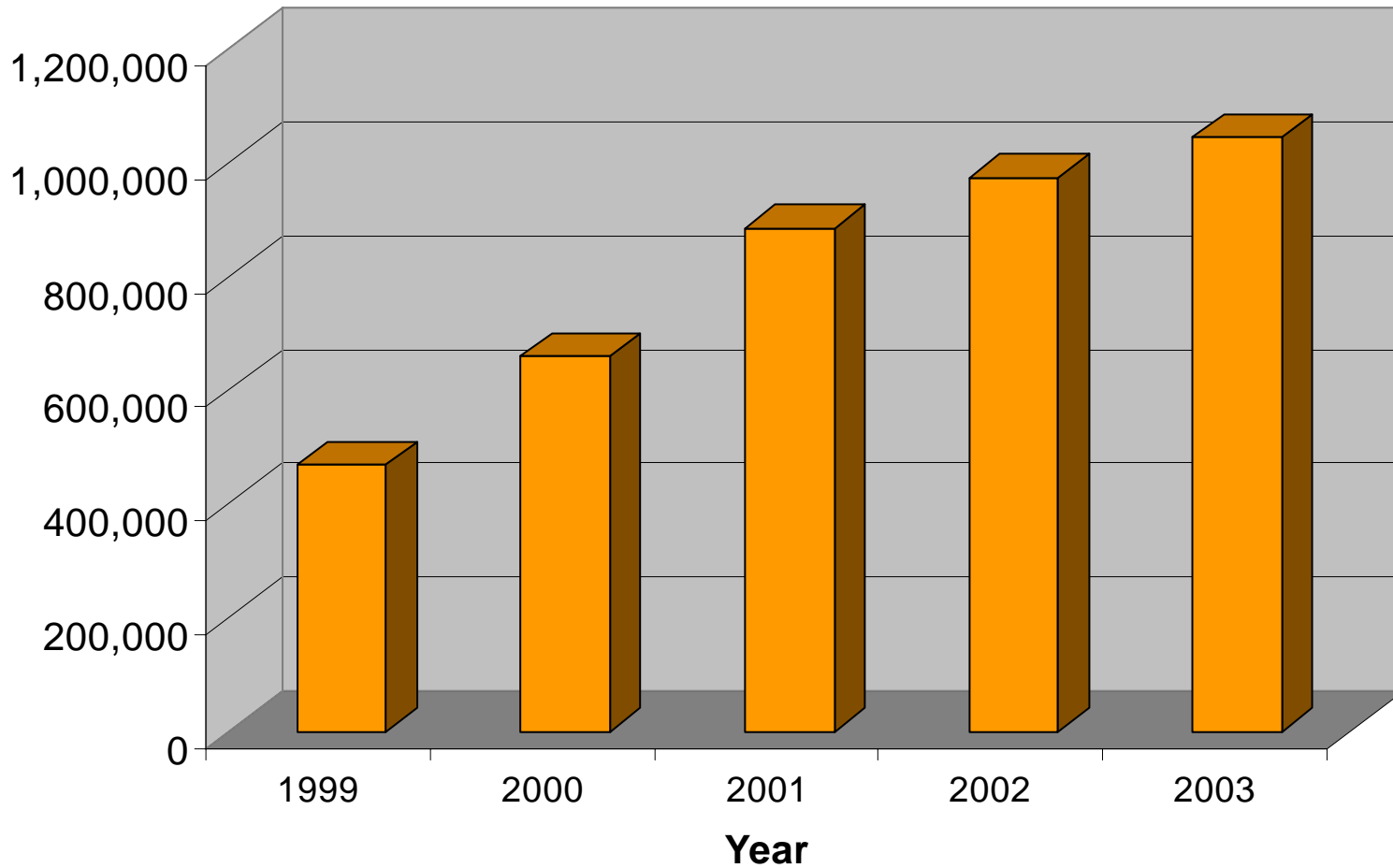
-If store accumulates >2,200 lbs. of lamps, it is a large quantity handler. Large quantity handlers have similar requirements, but must also notify Ecology and get an EPA ID#.

# Results: Did behavior change?



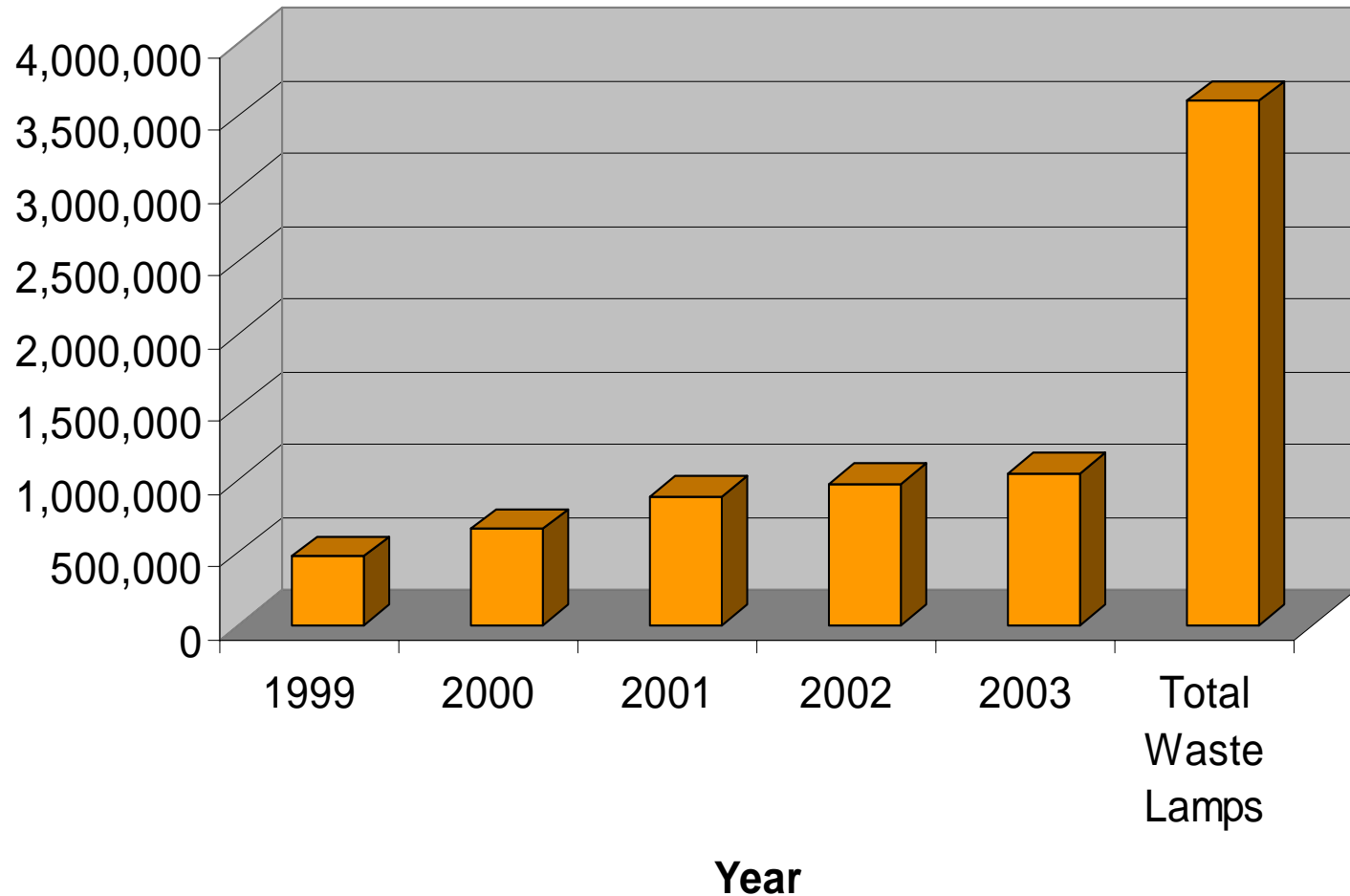
- ⌘ 1998 to 2003: lamp recycling of lamps by businesses grew from **<10% to 27%**, diverting 29 - 64 lbs. Hg
- ⌘ Number of “lamp” calls to Business Waste Line grew 75% in 2002 and 41% in 2003.
- ⌘ Number of “lamp” calls to Household Hazards Line grew 1313% in 2002 and 42% in 2003.
- ⌘ King County Executive Policy requires lamp recycling in all County facilities; WA State follows suit.
- ⌘ We worked with PPRC to acquire \$159K EPA grant to promote lamp recycling throughout the NW.

## **Growth in Recycling Rate of 4-Foot Fluorescent Tubes by Businesses in King County 1999 - 2003**



# Recycling Rate of 4-Foot Fluorescent Tubes by Businesses in King County

*Compared to Total Waste Lamps*



# 2004: Where are we now?



## ⌘ Increase business recycling rate to 40%

- ☑ Start recycling at 5 “role model” companies
- ☑ Explore policy & enforcement options

## ⌘ Increase residential recycling options

- ☑ Launch retail takeback pilot at hardware stores

## ⌘ Coordinate with state & regional efforts